

Product data sheet



MedKoo Cat#: 462527 Name: NSC305787 CAS: 785718-37-8 (free base) Chemical Formula: C ₂₅ H ₃₀ Cl ₂ N ₂ O Exact Mass: 444.1735 Molecular Weight: 445.428		
Product supplied as:	Powder	
Purity (by HPLC):	≥ 98%	
Shipping conditions:	Ambient temperature	
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years. In solvent: -80°C 3 months; -20°C 2 weeks.	

1. Product description:

NSC305787 is a small molecule ezrin inhibitor. Ezrin is a key driver of tumor progression and metastatic spread of osteosarcoma. NSC305787 directly binds to ezrin and inhibits its functions in promoting invasive phenotype. NSC-305787 reduces the incidence of lung metastasis in a genetically engineered mouse model of osteosarcoma. NSC305787 exhibits antineoplastic activity in pancreatic cancer cells

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under “QC And Documents” section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMSO	6.0	13.47

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.25 mL	11.23 mL	22.45 mL
5 mM	0.45 mL	2.25 mL	4.49 mL
10 mM	0.22 mL	1.12 mL	2.25 mL
50 mM	0.05 mL	0.22 mL	0.45 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of “Calculator”

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

- Lipreri da Silva JC, Carvalho MFL, de Miranda LBL, de Almeida BO, Lima K, Machado-Neto JA. NSC305787, a pharmacological ezrin inhibitor, exhibits antineoplastic activity in pancreatic cancer cells. Invest New Drugs. 2022 Aug;40(4):728-737. doi: 10.1007/s10637-022-01249-z. Epub 2022 Apr 28. PMID: 35477813.
- Chen C, Ye C, Xia J, Zhou Y, Wu R. Ezrin T567 phosphorylation regulates migration and invasion of ectopic endometrial stromal cells by changing actin cytoskeleton. Life Sci. 2020 Aug 1;254:117681. doi: 10.1016/j.lfs.2020.117681. Epub 2020 May 5. PMID: 32380081.

In vivo study

- Çelik H, Bulut G, Han J, Graham GT, Minas TZ, Conn EJ, Hong SH, Pauly GT, Hayran M, Li X, Özdemirli M, Ayhan A, Rudek MA, Toretzky JA, Üren A. Ezrin Inhibition Up-regulates Stress Response Gene Expression. J Biol Chem. 2016 Jun 17;291(25):13257-70. doi: 10.1074/jbc.M116.718189. Epub 2016 May 2. PMID: 27137931; PMCID: PMC4933238.
- Bulut G, Hong SH, Chen K, Beauchamp EM, Rahim S, Kosturko GW, Glasgow E, Dakshanamurthy S, Lee HS, Daar I, Toretzky JA, Khanna C, Uren A. Small molecule inhibitors of ezrin inhibit the invasive phenotype of osteosarcoma cells. Oncogene. 2012 Jan 19;31(3):269-81. doi: 10.1038/onc.2011.245. Epub 2011 Jun 27. PMID: 21706056; PMCID: PMC3513970.

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7. Bioactivity

Biological target:

NSC305787 is an inhibitor of ezrin with a K_d of 5.85 μM , inhibits the phosphorylation of ezrin caused by PKCI with an IC_{50} of 8.3 μM .

In vitro activity

This study assessed the potential antineoplastic effects of NSC305787 in pancreatic cancer cell lines. In pancreatic cells, NSC305787 reduced cell viability, clonal growth, and migration. This study's exploratory molecular studies identified that NSC305787 modulates the expression and activation of key regulators of the cell cycle, proliferation, DNA damage, and apoptosis, favoring a tumor-suppressive molecular network.

Reference: Invest New Drugs. 2022 Aug;40(4):728-737. <https://pubmed.ncbi.nlm.nih.gov/35477813/>

In vivo activity

Treatment of mice with NSC305787 significantly suppressed pulmonary metastasis compared with the vehicle-treated control. Lung metastasis was observed only in 40% (4 of 10) of NSC305787-treated animals ($p = 0.039$, Fisher's exact test) (Fig. 3A). Taken together, these findings suggest that NSC305787 treatment inhibits ezrin-dependent lung metastasis of osteosarcoma.

Reference: J Biol Chem. 2016 Jun 17;291(25):13257-70. <https://pubmed.ncbi.nlm.nih.gov/27137931/>

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.